

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2001 (13.12.2001)

PCT

(10) International Publication Number
WO 01/95441 A1

(51) International Patent Classification⁷: H01S 3/22, 3/104

(81) Designated States (*national*): CN, JP, US.

(21) International Application Number: PCT/GB01/02616

(84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

(22) International Filing Date: 8 June 2001 (08.06.2001)

(25) Filing Language: English

(26) Publication Language: English

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

(30) Priority Data:
0013833.9 8 June 2000 (08.06.2000) GB

Published:

— with international search report

(71) Applicant (*for all designated States except US*): RENISHAW PLC [GB/GB]; New Mills, Wotton-under-Edge, Gloucestershire GL12 8JR (GB).

(48) Date of publication of this corrected version:

14 February 2002

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): PRATT, Roland, Henry [GB/GB]; 27 Sydenham Hill, Cotham, Bristol BS6 5SL (GB).

(15) Information about Correction:

see PCT Gazette No. 07/2002 of 14 February 2002, Section II

(74) Agent: WAITE, John; Renishaw plc, Patent Department, New Mills, Wotton-under-Edge, Gloucestershire GL12 8JR (GB).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 01/95441 A1

(54) Title: GAS LASER AND OPTICAL SYSTEM

(57) Abstract: An optical apparatus e.g. an interferometric displacement determination device; spectroscopic analysis apparatus; polarisation measurement apparatus; or a heterodyne frequency measurement device has a linear HeNe gas laser having an Ne content of an Ne²⁰ isotope and an Ne²² isotope in substantially equal proportions, the apparatus in use having optical feedback toward the laser causing 0.1 % or more of the light output of the laser to be returned toward the laser (1). Use of this type of laser provides good polarisation stability even though excessive backreflection may occur, and hence the laser's frequency can be readily controlled.